Nectin 2 binds CD226

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Introduction

Reactome is open-source, open access, manually curated and peer-reviewed pathway database. Pathway annotations are authored by expert biologists, in collaboration with Reactome editorial staff and cross-referenced to many bioinformatics databases. A system of evidence tracking ensures that all assertions are backed up by the primary literature. Reactome is used by clinicians, geneticists, genomics researchers, and molecular biologists to interpret the results of high-throughput experimental studies, by bioinformaticians seeking to develop novel algorithms for mining knowledge from genomic studies, and by systems biologists building predictive models of normal and disease variant pathways.

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Literature references

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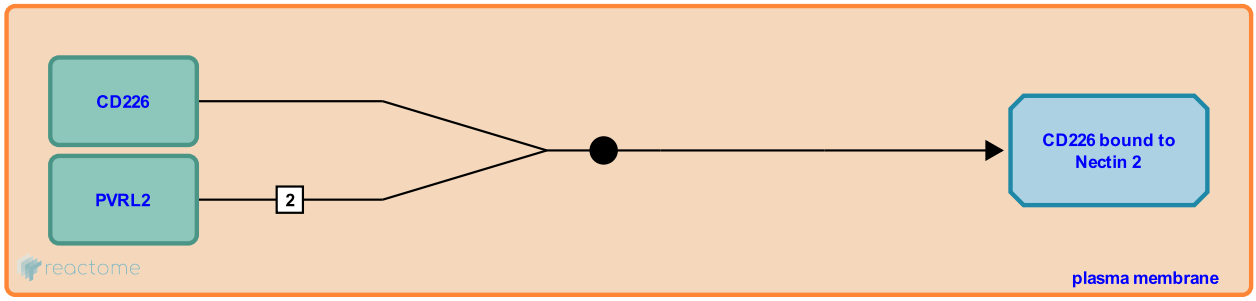
Stable identifier: R-HSA-199144

Type: binding

Compartments: plasma membrane



NK cells express adhesion molecules that allow interaction with their tumour targets, promoting their lysis.

For instance, the activating receptor CD226 is known to be involved in cytotoxic lymphocyte formation, as well as platelet adhesion to the endothelium. The cytoplasmic domain of CD226 contains binding motifs for members of the band 4.1 family of proteins, and for members of the membrane-associated guanylate kinase homolog (MAGUK) family. These proteins connect the CD226 receptor to the cytoskeleton and may promote clustering with LFA-1 integrin (also discussed in this pathway), which is known to participate in CD226's signaling cascade. CD226 plays a role in transendothelial migration, where it facilitates adherence to endothelial cells and migration between cell junctions.

Nectin-2 binds CD226. It is ubiquitously expressed in cells of various tissues, especially in epithelial cells, neurons and fibroblasts. Like many other nectin and Necl proteins, nectin-2 serves as a viral entry receptor for alpha-herpesviruses including herpes simplex virus (HSV-1 and HSV-2). The other CD226 ligand, Necl-5, was initially identified as a receptor for poliovirus.

CD96, another ligand for Necl-5, is strongly upregulated in activated NK cells.

CRTAM is similarly up-regulated, and has been shown to to bind Necl-2, promoting NK cell cytotoxicity towards otherwise poorly immunogenic targets.

Literature references

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Editions

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